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MULTIMEDIA PLAYER AND BROWSER SYSTEM

TECHNICAL FIELD

In one aspect the present invention relates to media or multimedia (e.g., audiovisual graphics) players, and to the corresponding audio, visual and graphics content played with such
10 players. In another aspect, the invention relates to internet browsers and servers. In yet another aspect, the invention relates to the burgeoning field of "targeted" electronic commerce.

BACKGROUND OF THE INVENTION

An application server is a server program that resides in the server (computer) and
15 provides the business logic for the application program. The server can be a part of the network, or more precisely the part of the distributed network. The server program is a program that provides its services to the client program that resides either in the same computer or on another computer connected through the network.

Application servers are mainly used in Web-based applications that have a 3-tier
20 architecture. The application server is typically a second/middle tier of the three-tier architecture. In other words, application servers are now an integral part of the three-tier architecture. The application server syncs and combines with the Web server for processing the request made by the client.

In the request-response flow between client, Web server and application server, the
25 client's request first goes to the Web server, which then sends the required information to the

application server. It then sends the response back to the Web server after taking an appropriate action. The Web server then sends the processed information back to the client. Web servers use different approaches or technology for forwarding or receiving back processed information.

Some of the most common approaches include CGI (Common Gateway Interface, can be written either in JAVA, C, C++, or Perl), Fast CGI, ASP (Active Server Pages), JSP (Java Server Pages), Java Servlets, and Java Script (Server Side).

Multimedia players AV servers

The development and improvement of multimedia players has proceeded at a significant pace over the past decade. The internet.com ServerWatch service, available at serverwatch.internet.com, attempts to explain the current systems and products available with respect to servers generally, including audio/video servers, and provides reviews of current products. With respect to current audio-video servers the site provides:

Audio and video servers deliver multimedia capabilities to Web sites by giving users the ability to listen to sound bytes and watch movie clips via Web browser plug-ins. While the use of traditional A/V formats like WAV and MIDI (sound) or MOV and AVI (video) on Web sites doesn't necessitate a specialized server, the recent emergence of streamed audio and video content has made the Audio/Video Server a necessity in many cases. The new streaming technology marks an important transition for A/V multimedia on the Web and will undoubtedly become one of the Web's most exciting technologies as it evolves.

Among the current types of servers identified and reviewed on the ServerWatch site includes and provides the following descriptions:

Crescendo Streamsite

The Crescendo line of products makes it possible for users to listen to background MIDI music while browsing Web sites. Any Web site can add its own MIDI music by using the embed HTML tag, but only Crescendo makes it possible to stream MIDI music over the Web. Streaming refers to the ability to listen to audio content *while* it is being downloaded as opposed to having to wait until *after* the file has been completely downloaded. On the client side there are actually two ways to realize the streaming benefits of Crescendo.

The first option is to download the freeware Crescendo plug-in. The standard Crescendo plug-in is available for both Netscape and Internet Explorer and can run on Windows 3.x, Windows 95/NT, and Macintosh platforms. It allows you to play any MIDI file encountered on the web, but it can only stream MIDI files on sites that use Crescendo StreamSite. The second method for utilizing Crescendo's MIDI streaming technology requires the purchase of Crescendo Plus. This \$19.95 plug-in will stream all MIDI files on the 'net regardless of whether the site you're visiting uses Crescendo StreamSite. The deluxe plug-in also offers free upgrades and technical support from Live Update.

Crescendo StreamSite covers the server side of the MIDI streaming technology by enabling Web sites to serve their own streamed MIDI files to users of the Crescendo plug-in modules. StreamSite isn't exactly an encoder or server for your Web site; rather it's a site-specific "key-file" on your Web site that enables the streaming of MIDI files

when played with either of the two plug-ins. The cost of StreamSite ranges from \$49.95 for personal use to \$395+ for small business use and larger enterprises.

While the Crescendo technology is limited to only MIDI music (i.e. it won't work with WAV, AU, and RealPlayer files), it is the only app currently available that *does* offer MIDI streaming support. If you have a Web site and want to serve streamed MIDI content, StreamSite is an application you won't want to do without, and if you regularly visit Web sites that offer background MIDI music, you'll definitely want to check out the freeware plug-in and perhaps the more advanced Crescendo Plus as well

Liquid Music System

The Liquid Music System is advertised as being the first Internet client/server system designed solely for CD-quality audio and marketed to online music publishers. The audio system is built around three components -- Liquid Music Player (for playing files), Liquifier Pro (for mastering and encoding), and Liquid Music Server (for serving). Because the Liquid Music Server and the Liquid Music encoding system are not currently available for download, we can not provide an extensive review of the system at this time. The following is a summary of the Liquid Music System.

Liquid Music Server is obviously geared toward online commerce -- audio files from a Liquid Music Server can either be sampled in short clips of streaming audio by the Liquid Audio Music Player or purchased and downloaded as local files for further listening. The idea is to write the purchased files to a CD-recordable disc and play them

on any CD player. Purchase of the files by customers requires integration with an online commerce server such as Microsoft Merchant Server or CyberCash.

Liquid Music Server incorporates Dolby Digital technology to provide the CD-quality audio. In addition, other information like lyrics and album-cover information can be sent along with the audio and displayed by the Liquid Music Player. This information is stored in a SQL file and transferred via either an ODBC connection in the Windows NT version or a direct mSQL, MySQL or Oracle connection in the UNIX version. Liquid information can also be distributed on a network, as the SQL database can be located on the Liquid Music Server server or on a separate server.

Data is protected by a number of advanced copy-protection features like digital watermarking to ensure that downloaded audio content is managed only by the proper parties and not pirated across the Internet. In addition, Liquid audio files are encrypted to further protect from piracy. Finally, copyright information for the files is incorporated within the downloaded files as well as on the server itself.

Like other streaming-audio systems, the Music Server selects streaming transmissions rates based on the server connection quality and the overall performance on the Internet at that specific time. Overall, the Liquid Music System looks to be an ambitious (albeit expensive) attempt to bring CD-quality audio to the Internet, but unfortunately, without a version of the server available for downloading, you'll have to take Liquid Audio's word for it.

Microsoft NetShow

Earlier versions of NetShow offered Advanced Streaming Format (ASF), a real-time audio and video streaming technology strong in its own right but rivaled by RealNetworks' RealVideo and RealAudio (RA/RV) streaming technology. The success of Microsoft's ASF technology has also been limited by the fact that Microsoft entered the scene well after the RealNetworks technology had gained a majority of the multimedia on-demand market share.

With considerable ground to be made up in terms of both performance and reputation, Microsoft appears to have decided its best move would be to incorporate the RealAudio and RealVideo technology into its NetShow player.

In terms of distinctive competencies, NetShow's most promising is its versatility. With a combination of both ASF and RA/RV multimedia formats under its belt, NetShow delivers compatibility with more existing real-time audio and video content than any other client currently available. NetShow benefits from an edge in cross-platform compatibility as well, with versions currently available for Windows 95, Windows NT, Windows 3.x, Macintosh, and UNIX. NetShow also offers the ability to create and serve both live and on-demand multimedia content using either the excellent standard NetShow 3.0 Server client or the even better premier NetShow Theatre Server designed specifically for Windows NT 4.0 Server. The basic server will enable you to deliver streamed multimedia in both ASF and RA/RV formats and is similar to RealNetworks' Basic

Server. The NetShow Theater Server, now in beta release, provides a more powerful platform for delivering MPEG-quality full-motion, full-screen video across high-bandwidth networks and dedicated video LANs.

5 NetShow also excels at flexibility through its excellent support for Web browsers and similar 'net apps. The freeware NetShow client installs a standalone player on your desktop as well as a plug-in for Netscape (and similar browsers) and an ActiveX control for Internet Explorer. Tools for encoding and administering real-time multimedia content and the standard NetShow Server client are also included in this package (NetShow Theater Server can be downloaded separately for free as well). The interface of the client is strikingly similar to that of RealPlayer v4.0 and offers all of the basic controls that one would expect to find in an audio/video player.

10 The most noticeable shortcoming of NetShow is that while the client does offer integrated RealAudio and RealVideo content, it does so only through use of the older version of the RealPlayer software (v4.0). RealNetworks has since released version 5.0 of RealPlayer which improves on the audio and video quality side of the equation and also adds new support for "RealFlash" animation content synchronized with RealAudio. Another shortcoming of NetShow is that it currently requires two different players -- one
15 for playing files in the ASF format and another for those in the RA/RV format. While the dual player aspect of NetShow is expected to be improved upon with the next major release of the client, the fact that two players are currently required is still a surprising deficiency from a company like Microsoft.

The bottom line is that although Microsoft NetShow has come a long way since its initial debut, it still trails RealPlayer by a sizable margin. The fact that NetShow (v2.0) is built into Microsoft Internet Explorer will undoubtedly help NetShow in its uphill battle against RealPlayer. But as long as RealNetworks can continue to stay one step ahead of Microsoft as it has done with the latest release of RealPlayer, NetShow will have a difficult time trying to overcome the current king of multimedia streaming.

RealServer G2

The RealServer G2 technology used by RealNetworks in its industry-leading solutions is based on a simple formula: compress data as much as possible, take advantage of ever-faster connections to the Internet to push the data from server to client faster, and use streaming technology to deliver the data to the user in a way that allows both audio and video to be sent without significant degradation in quality.

That formula hits its peak with RealServer G2, which offers audio and video quality far superior to previous releases. The latest release gets its name from the G2 music codec introduced by RealNetworks for the most advanced audio streaming technology ever. The official release of RealPlayer G2 also supports the newly announced W3C standard Synchronized Multimedia Integration Language (SMIL), which allows for the layout and synchronization of multiple data types (including the new multistream data types RealPix, RealText and RealFlash, all of which were co-developed with Macromedia) and offers a broadband multimedia experience even over low-bandwidth connections.

Also supported in the G2 release is RTSP (Real Time Streaming Protocol), a protocol positioned as the standard client/server protocol for streaming audio. RealServer natively supports other Web-oriented multimedia formats as well, including ASF, AVI, JPEG, MPEG, VIV and WAV. Additional new features include FRU (frame rate upsampling) technology for broadcast quality video at up to 30 frames per second, stereo and near-CD audio quality capabilities, load balancing between multiple servers, multicast IP capabilities, and scalable multicasting capabilities.

RealServer G2 can be broken down into three components: RealPlayer/RealPlayer Plus for playing the content (the standard version is freeware and the Plus release offers advanced capabilities for \$29.99), RealProducer for encoding and organizing the content, and RealServer for serving the data.

New in RealPlayer G2 and RealPlayer Plus G2 is the ability to search via the Excite search engine for RealAudio and RealVideo clips. Additionally, RealPlayer G2 now supports iQfx from QSound Labs, providing access to digital 3D sound. According to RealNetworks, RealPlayer (including G2 and earlier versions) now has more than 38 million registered users.

Additional features that have recently been implemented in RealPlayer G2 include bandwidth negotiation (for customizing audio quality to connection speed), multicasting support, pseudo-streaming for small audio files, multimedia synchronization, advanced

plug-in capabilities, an AutoUpdate feature that automatically downloads the latest RealPlayer components for users, and Java integration capabilities.

With RealProducer, RealProducer Plus, and the new RealProducer G2 Authoring Kit you can use wizards to create Web pages with embedded streaming media and have the client simultaneously upload the proper files to the correct RealServer G2 directory or to a page hosted by an ISP. (Many ISPs have implemented RealNetwork technology and make the server available to their customers.)

RealServer and RealPlayer support the RealVideo G2 and RealAudio G2 formats. In turn, the RealVideo G2 supports Intel's Streaming Web Video technology, which provides automatic multi-rate streaming video content. RealAudio G2 also offers near-quality sound over connections as slow as 28.8 Kbps. New in both products is SureStream, a transport technology that delivers reliable and continuous streaming data under less-than-optimal network conditions at all connection rates.

The RealServer runs on any number of operating systems (including Windows NT and various UNIX platforms) and features Web-based administration and monitoring capabilities, which are extensible both via HTML and through a server-side API. For marketing reasons, RealServer G2 has been broken down into seven solutions:

Internet Solution - the most full-featured implementation and the one used most often on the Internet. You can download a free evaluation of the Internet Solution from <http://proforma.real.com/mario/eval/download.html>.

Commerce Solution - includes password protection, payment schemes and tracking of user demographics. In an Internet situation, the Commerce Solution can be used to provide pay-for-view events and to sell premium content protected by a password-authentication system. In a corporate intranet situation, the Commerce Solution can be used to provide secure training tutorials and sales demos.

Enterprise Solution - the most advanced RealServer implementation possible, including everything found in the Internet and Commerce solutions as well as advanced capabilities like in-depth system administration and reporting tools, user authentication, a Firewall Proxy Kit, the RealServer G2 SDK and a Java performance monitor.

Basic Server Plus G2 - a \$685 solution that includes RealProducer and the ability to host up to 40 simultaneous sessions. It does not, however, include any support (which, unless you're very familiar with creating content or setting up an audio server, you'll probably need).

Basic Server G2 - a freeware solution that supports up to 25 sessions of live and on-demand RealAudio, RealVideo, RealText, and RealPix broadcasts. The Basic Server also does not include any support.

Classroom Solution - intended for use in educational situations.

Hosting Solution - designed for ISPs that want to offer RealServer technology to their customers.

There are different operating systems supported in the various solutions, but on the most popular level -- the Internet solution -- OSes supported currently include SCO OpenServer 5.0.4 and Unixware 7, Windows NT Server 3.51 or 4.0, Linux 2.0.30 with ELF support, FreeBSD version 2.2.x, Solaris 2.5 or better, SGI Irix 5.3 or 6.2, HP-UX 10.01, Digital Unix 4.0, or IBM AIX 4.0 or better.

You'll also need a Web site and a registered domain, as well as a Web server that supports configurable MIME types. RealServer has been tested with the following Web servers: Apache 1.1.1, CERN HTTPD version 3.0, EMWAC HTTPS version 0.96, HTTPD4 Mac, Mac HTTP, Microsoft Internet Information Server, NCSA HTTPD versions 1.3 or 1.4, Netscape Netsite and Netscape Enterprise Server, O'Reilly WebSite, Spinner version 1.0b12 through 1.0b15, and Webstar and Webstar PS. Finally, you'll need 2MB of hard-disk space and approximately 3MB of available RAM plus a maximum of 20KB of RAM for each simultaneous RealAudio stream served and a maximum of 60KB for each simultaneous RealVideo stream server.

RealNetworks also offers a few solutions for implementing streaming audio without an initial major financial commitment. Through the Real Broadcast Network (RBN), potential customers can have RBN configure audio, video or other media files and deliver them off of the customers' Web site for a specified period of time without the need for making the financial commitment to streaming media. At the end of the trial period, you can either make the necessary commitment to streaming media or decide that it doesn't fit your needs.

RealNetworks pioneered the development and usage of streaming audio and video. Unlike most pioneers in the computer industry, however, RealNetworks has thrived despite some heavy competition from the likes of Microsoft, thanks to the delivery of ever-better technology and services.

StreamWorks

Xing's StreamWorks offers impressive real-time MPEG audio (layer 1 and 2) and video (layer 1) technology for Windows 95/NT platforms. ISDN users and direct 'net connectors will rejoice at the ability to check out continual A/V signals from StreamWorks servers, but 28.8 Kbps and 14.4 Kbps users will likely find the waters quite a bit rougher. In fact, at 14.4 Kbps, real-time video is actually closer to a still image than a movie, and audio, while decent, is nowhere near the quality heard on the radio or even from competitors like RealAudio and VivoActive. 28.8 Kbps users (and 33.6/56 Kbps users) will fare better with fewer delays and overall quality nearly on the level of the competition.

A variety of StreamWorks samples can be viewed from content providers using one of the StreamWorks server solutions. Current content choices range from REM to Garth Brooks audio feeds and from NBC video feeds to rock and classical radio stations. Most feeds are available in a variety of formats in order to meet the different needs of users (14.4, 28.8, 56, ISDN, and T1). At the highest data rates, the player is capable of full screen, full color, full motion video with CD quality, 44 kHz audio.

At the more common lower data rates, the player can still receive streamed video and synchronized high-quality audio, but performance and quality lag behind competing technologies like RealMedia. StreamWorks is on the cutting edge of technology and will only get better in the future, but it faces an uphill battle against well-entrenched forces from the likes of RealMedia, VivoActive, and Microsoft NetShow.

Developers can add their own scalable streaming multimedia content to Web sites by purchasing one of the StreamWorks server solutions. StreamWorks Server packages are currently available for Windows NT (Alpha and Intel), Sun Solaris, IRIX, HP-UX, and Linux platforms. The basic server package costs \$3500 and offers on-demand streaming output up to 1.5 Mbps. Additional packages of the server are available that increase output to 10 Mbps (\$4095) and 45 Mbps (\$9095). Each of the server packages can be expanded to broadcast live events with the \$500 MPEG Live Audio Encoder (for audio only) and with StreamWorks' \$7500 complete turn-key live video solution. Server pricing is current as of the first quarter 1998.

VDOLive

5 The VDOLive client is similar in many ways to Xing's StreamWorks client. Both offer real-time audio and video playback over the 'net with only a minimal amount of deterioration in quality, but only VDOLive offers seamless integration with your Netscape or Internet Explorer browser for inline support of real-time audio and video. Platforms currently supported include Windows 3.x, 95, and NT with a standalone player, Netscape plug-in, and Internet Explorer ActiveX Control included in each download. A free starter version of the VDOLive Server (for Windows NT or Unix platforms) is also available for download and can be used to offer streamed multimedia content both on the Internet and on private Intranets. The starter server is limited to 25 concurrent streams and a maximum bandwidth of 56 Kbps per stream.

10 VDOLive also produces a standard commercial server that features on-demand and broadcast capabilities, support for an unlimited number of streams, and scalable video up to 512 Kbps per stream. The VDOLive Server costs \$7,500 and includes technical support and unlimited copies of the VDOLive Tools for encoding on-demand streaming content. While the standard server can serve live video streams, it requires an additional solution for encoding of these streams. The VDOLive Broadcast Station (\$5,000) encodes a live video feed in real time and passes it to a standard server where it is then streamed to end users. The Broadcast Station is currently available only for Windows 95 and can encode and pass through a maximum of three concurrent streams. Enhanced Support can be purchased on an annual basis and includes both standard technical support

as well as VDOLive Server software fixes and upgrades. Enhanced support (\$2,500 per machine) is required for the first year when purchasing either the VDOLive Standard Server or the VDOLive Broadcast Station.

5 The VDOLive player itself performs admirably even over 14.4 Kbps connections with only an occasionally dropped frame. Given the impressive playback at low speeds as well as superb audio quality, ISDN users and direct 'net connectors will be even more impressed with the performance of VDOLive. Although VDOLive is still emerging as a viable client, VDO content on the 'net has already gained quite a following. VDOnet's VDOLive Gallery offers an extensive listing of VDO content sites, but the technology still has a way to go before it can catch up to the popularity of competitors like RealPlayer. The widespread availability of VDOLive servers has just begun and will hopefully give the technology a better chance of competing with RealPlayer in the near future. Like StreamWorks, this is an app on the cutting edge of technology and will only get better in the future, but it faces an uphill battle against well-entrenched forces from the likes of RealMedia, VivoActive, and Microsoft NetShow.

Based on the MPEG-1 and MPEG-2 compression formats, Vosaic MediaServer is a unique product in that it separates audio and video content into separate streams (which is beneficial for maintaining audio and video synchronization in high-traffic situations) while providing a Java-based client that can be run on any Web server.

Vosaic MediaServer works in conjunction with any Web server on any platform, supporting a high frame rate (15fps to 30fps) in high-bandwidth situations. The Vosaic MediaServer isn't difficult to install and configure: all you do is unzip or untar the distribution file, run an installation program via a Web browser, and make sure that the Vosaic MediaServer files are installed in the proper locations. You'll also want to make sure that the MediaServer knows where the movie and audio files are installed (as created by Vosaic Studio, which ships as part of MediaServer).

Performance is decidedly mixed with Vosaic MediaServer, although most of the movies we transmitted were more than acceptable. Although we didn't test Vosaic MediaServer in a firewall situation, we had concerns about whether both streams would make it through most firewall situations. When running, MediaServer displays a real-time log window, providing basic information about the server activity.

The client is functional, but not especially noteworthy - the four on-screen buttons support play/pause, fast forward, rewind and stop, but they don't provide additional feedback information such as the length of the movie or how much time has elapsed. The most notable aspect of the client is its availability across a number of operating systems - Windows 95, Windows NT, Irix, and Solaris. In addition, the client offers support as a Netscape Navigator plug-in or as a Microsoft Internet Explorer ActiveX control.

In a mixed-OS environment, Vosaic MediaServer makes a lot of sense and is worthy of considerable attention. When running as a purely Internet application, however, Vosaic

MediaServer's relatively high price tag diminishes its value when compared to other streaming audio and video products.

The patent literature itself provides a variety of examples of inventions dealing with similar topics. For instance, in US Patent No. 6,047,292, assignee CDKnet describes a CD having both audio, visual, application and browsing functions on the same media. The application permits the user to both play individual items of audio or video and to also hotlink to related web pages and web sites.

US Patent No. 5,861,881 (Freeman, et al.) issued to ACTV, Inc. describes an interactive computer system operable on a computer network. Multiple video/audio datastreams may be received from a broadcast transmission source or may be resident in local or external storage. In response to user inputs, a personalized graphics, video and/or audio presentation is provided to the user either immediately or at a later time.

The various applications above provide a variety of new and exciting opportunities. What they collectively lack, however, are various combinations of features that provide even greater opportunities to the client user, and ultimately, to the "ecommerce" (i.e., electronic commerce) provider and customer.

SUMMARY OF THE INVENTION

The present invention provides a software application that provides a multimedia experience that can include audio, video and/or graphics, in a manner that combines the multimedia experience with the transfer of information from and between a variety of sources, in a variety of directions, and subject to a variety of prompts. Such a multimedia experience can be

used for a corresponding variety of purposes, for instance in the travel industry (with respect to travel destinations) or real estate industry (with respect to available properties), but is particularly well-suited to the music and entertainment industries.

The application provides a unique opportunity to merge both local and online content in an integrated and seamless manner. The application provides what Applicants describe as a “Web in Page” approach, in which a series of windows have the same or similar “look and feel”, yet can be used to access and display information from a variety of sources, including local content (hard drive or digitally recorded media), and web-based online content, including that available from a dedicated, integrated server, affiliated servers, or even other computer users.

The application of the present invention can be provided in stand-alone form, to be loaded on a client device (e.g., personal computer) from either a recorded medium or downloaded online. Optionally, and preferably, the application is provided in a form where it is recorded on, and thereby combined with, digitally recorded content, such as a music CD or DVD. In the course of loading the CD/DVD, the user can automatically load the application as well, in a manner that permits online access and interface with the dedicated server or other sites. Once the local content is accessed, and connection with an internet site is established, the user is able to move between the local and online sources in a seamless and controllable fashion, while at the same time, the server is able to seek, make available and/or direct additional information toward the user, in either a prompted or unprompted fashion.

With respect to music, for instance, the application provides the ability to play and display a music CD or DVD in a manner that permits the user to simultaneously display lyrics, and/or to immediately access related information concerning the artist or selection. Such information can include, for instance, local content available from the CD/DVD itself (e.g.,

artist, selection, credits, lyrics) as well as online content such as current ticket information (and ordering), merchandise availability (and ordering), live interviews, and other related information. For information beyond that available from (or accessible by) either the local content or dedicated/affiliated server sites or databases, the application provides the ability to link to the user's browser in order to access the internet in its entirety.

Moreover, and by virtue of the online connection made between the client and the dedicated server, an entire world of focused and targeted electronic commerce becomes available. The dedicated server (or any of its affiliated sites) is able to direct content to the user, e.g., in a manner responsive or specific to the user's requests or profile.

The present invention therefore provides an article of manufacture for use in a computer, comprising a disc having an application as presently described. The invention further provides a computer program for controlling a computer, the program comprising a recording medium readable by the computer, and means on the recording medium for providing the player and browser components of an application as described herein.

In yet another aspect, the invention provides a data provider stored on computer readable medium, the data provider comprising a first plurality of computer instructions, which when provided to a central processing unit ("CPU") directs the processing unit in a manner that provides the player functions described herein, and a second plurality of computer instructions, which when provided to a CPU provides the browser functions described herein. In a similar aspect, the invention provides a data provider stored on computer readable medium, wherein the data provider is executable by a CPU, the data provider, when executed by the CPU causes the CPU to comprise sort circuitry which provides a list of sorted items as described herein,

identification circuitry which identifies a selected item in the list of sorted items, and
transmission circuitry which transmits the selected item.

For instance, the invention provides a computer program for controlling a computer, the
program comprising a recording medium readable by the computer, and means on the recording
5 medium for providing both a multimedia player component and an integrated internet browser
component, wherein the program permits a user to play one or more items of multimedia and to
access the internet in an integrated fashion. Preferably, the invention provides a computer
program wherein access to the internet is provided in the form of access to a dedicated and/or
affiliated server sites adapted to provide related content, and more preferably, wherein access to
10 the internet further comprises a conventional browser in order to provide access to unaffiliated
server sites. In a further embodiment, the invention provides a computer program as described
herein, further comprising one or more items of multimedia content, preferably wherein the
multimedia content is selected from music and corresponding video and graphics.

In a related embodiment, the invention provides an article of manufacture for use in a
15 computer, comprising a computer readable (e.g. digital recording) medium comprising an
application as described herein, as well as a system comprising a computer program as described
herein, in combination with a dedicated server adapted to be linked by the browser in order to
provide related content. Similarly, the invention provides a method of providing multimedia, the
method comprising the steps of providing a computer program as described herein, loading the
20 computer program on a client computer, establishing a connection between the internet and the
client computer, and employing the program to both play one or more items of multimedia
content and access the internet for related content.

BRIEF DESCRIPTION OF THE DRAWING

In the Drawing:

Figures 1-15 provide individual screen views in the course of operating a preferred application of this invention.

Figures 16-17 show flow charts describing the relationship of features and functions in a preferred application of this invention.

DETAILED DESCRIPTION

In a preferred embodiment, the software application of this invention is preferably included as a component of a comprehensive system, that includes the client user, a corresponding dedicated server site, and optionally, integrated and/or affiliated third party sites, which can include those having a working relationship with the dedicated server site. In use, the software user can load the software (e.g., automatically, by inserting a music CD or DVD containing the software), which will immediately prompt the user's computer to load the software application and provide access to that comprehensive system.

Once loaded, the software permits the user to access any desired component or function. Simultaneously, via the dedicated server site, information can be "pushed" to the user and/or "pulled" by the user, from the online dedicated site or beyond. Typically, for instance, the dedicated server site will have its own stored database of information regarding the recording artist, and can provide such information to the user in either a prompted (or requested) or unprompted manner. Similarly, the server site can, and typically will, have established a

working relationship with third party sites, such as ticket providers or that of the artist or record label. Such relationships can serve to provide the server site with continual updates of information, to be stored at the server site. Additionally, the user can link to other, non-affiliated third party sites, by means of the external browser interface.

5 As a result of these various features, the user can himself control the display of information and media being presented, while at the same time a variety of targeted commerce can be delivered and made available to him, e.g., based on immediate requests, user profiles (e.g., the user's history, as recorded at the server site), user preferences, collective preferences (as generated by consumer profiles and similarities), and the like.

10 As seen with respect to the diagram in Figure 16, a preferred embodiment of the present invention provides a software application for providing a multimedia presentation, the application comprising a media player component and a browser component. The media player component (and corresponding window(s)) can include, for instance, one or more of the following window modes: audio (e.g., for local CD/DVD tracks), video (e.g., for local CD/DVD tracks), pictures (e.g., local CD stills), text (e.g., local CD HTML) and a personal jukebox (e.g., customized media through the dedicated server web site). The browser component (and corresponding window(s)) can include one or more of the following window modes: audio (e.g., web tracks), video (e.g., web tracks), pictures (e.g., web stills) and text (e.g., web HTML).

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20 In Figure 16, upon placing a CD in the CD Drive of his/her PC, the user is provided with the ability to navigate to the Media Player Window component or the Browser Window Component. Both players access a local XML database to retrieve data such as skin information, local content (lyrics, track info, etc.), graphics, etc. Both players can also launch the default

browser (Internet Explorer, Netscape Navigator, etc.). The Browser Window Player can seamlessly display local content and online web content in WIP pages.

As also seen in Figure 16, in the course of operating the client PC, the media player window(s) provides a customizable graphics format (skin) adapted to play both web and local digital media. The browser window(s), in turn, provides a customizable graphics format (skin) as well. The web pages are available only to CD-specific players, and is available to load both local digital and/or web content. Optionally, the application provides optional links to outside web pages, displayed through an outside browser such as the current versions of Microsoft Explorer or Netscape. The dedicated server site maintains, or can access, one or more databases, adapted to provide a feed of related information or media to the client.

The media player can provide one or more modes, e.g., selected from the group consisting of audio (e.g., CD, DVD, mp3) modes, video modes, and graphics modes (e.g., pictures and text, as well as roll-by, graphic equalizer, oscilloscope displays). The WIP page approach described herein provides the player(s) in a form that is integrated with the browser itself, so as to permit topical information to be "pulled" from secondary sources (the dedicate server or other sites) by the application itself, or by the user, while also continually or periodically monitoring such sources via the internet for further relevant information. The WIP page approach includes, therefore, an internal browser component, integrated with the player component (windows in player) and an interface, integrated with the player component, and adapted to access an external browser.

A schematic diagram is provided in Figure 17, which is shown (and also provided) broken into individual frames 17 a, 17b, and 17c. In Figure 17, "Install Prompt" portion provides the user with the opportunity to cancel the installation of the client software. Such a

prompt can be in any suitable form, e.g., those available under the "InstallShield" or "Wise" tradenames. At the "Intro Sequence", the application provides a "one time" opportunity, after an initial install, to provide a relevant message, e.g., tout the artist, the server site, or some other feature or entity. Such an opportunity can attract the attention of the user high-quality graphics, animation, or even video.

Continuing with Figure 17, the "First Open Audio" is the "player" that is first launched when an application disc is inserted in a drive, or following the "Intro Sequence" after an initial install. The "CD Cover Art" area, for instance, could provide a picture of the music CD or some other default graphic. The "First Open WIP Window" is the "player" that is first launched when an application disc is inserted in a drive, or following the "Intro Sequence" after an initial install. The will display and tout the technology either through video or flash animation.

The "Audio", as shown in Figure 17 represents the "player" that is geared for the audio portion of the application. It can provide standard audio controls as well as other standard application controls (e.g., those listed below). The Lyrics area can display the lyrics of the current song player, CD Cover Art, or a default graphic. The "Video" feature is the "player" that is geared for the video portion of the application. It can provide standard video controls as well as other standard application controls (e.g., those listed below). The video display area can display the video or a default graphic.

The "WIP Promo" feature is the "player" that is geared for the seamless presentation of local content (gallery/bios, lyrics, contact info, etc.) and online web content.

As standard controls, the application provides a "Brand Name" feature that allows for branding of the application such as the title of the CD. The "Menu Base" is the main menu which is available at all times and allows navigating between the other components or players.

The "Promo Icon" is a "Bug" promoting a sponsorship for the player, for instance, it could represent a retailer or some other sponsor promoting based on the genre of the artist of the disc. Clicking on this "Bug" will redirect to the appropriate Web Site either through a WIP page or launching the client's default browser (e.g. Internet Explorer, Netscape Navigator, etc.). The "Ticker" allows for non-obtrusive advertising. Clicking on this "Ticker" will redirect to the appropriate Web Site either through a WIP page or launching the client's default browser (e.g. Internet Explorer, Netscape Navigator, etc.) .

The "Audio Controls" are standard CD audio controls for play, stop, pause, volume, etc., and will typically be "grayed out" if a CD is not present in the drive. The "Video Controls" are standard video controls for play, stop, pause, volume, etc. There is an area for audio track or video information ("BUSH OF GHOST"), as well as an area for a track counter (00:00). As depicted, the application displays both Minimize and Close buttons (- & x respectively). Finally, the "List" is a playlist, and can contain the tracks for a CD, a list of videos, or a list of MP3 audio files to play, while the "Full Screen" button allows the user to switch the video currently being viewed into a full screen mode.

As described herein, the software application is preferably provided in combination with at least one audio, visual or graphics (e.g., textural, equalizer) selection. For instance, the software application can be included on a CD or DVD music album in order to permit the user to play various selections on the CD/DVD in a manner that permits the simultaneous display of lyrics, and/or that permits the user to access a variety of other information regarding the recording group.

When in the context of music, the audio is preferably songs, the video is preferably selected from music videos, concerts, and interviews, and the corresponding textural content is preferably selected from lyrics, and graphic equalizers. In such a context, the information is provided either online or from local content and is selected from artist information, music or video information, fan club information, tour schedules and ticket information and ordering capabilities, catalog information and interactive ordering capabilities, photographs, biographies, credits, and other information.

Such information can be provided from or by a variety of sources, including by the application provider, by affiliated (e.g., integrated) information providers, by internet information providers, and by networked information providers (e.g., using "napster"- like linkages and information transfer mechanisms).

The application of the present invention provides a variety of independent and/or interactive functions in a single e-commerce engine, including the access and display CD/DVD audio and/or visual, digital audio, digital video, as well as graphics. The application provides the features of the web, and more, without necessarily involving the "look and feel" of a conventional web browser. Rather, the application permits and provides the "look and feel" of the application provider, in a manner that permits intelligent and reactive coordination and targeting of electronic commerce.

The invention will be further described with respect to the Drawing, in which Figures 1-15 show representative views of a preferred application of this invention and in which like numbers refer to like parts throughout. The Figures are directed to a currently preferred application, in which music audio and video is available, together with graphics such as song lyrics.

Figure 1 shows a CD audio player with track titles as push buttons and lyrics being display in the main window.

Figure 2 shows e-commerce in a “WIP” (Web In Player) page, in which on-line content is displayed to the client user. In this case artist-related merchandise (here T-Shirts) can be added to the shopping cart and ordered online.

Figure 3 shows e-commerce in a local commerce player, showing the display of local content (e.g., either hard drive or on local digital recording media), as compared to the online content shown in Figure 2.

Figure 4 shows a video player with video titles as push buttons, in which the video is played from the CD and displayed in the main window

Figure 5 shows detailed news information being provided from an online source in a WIP (Web In Player) page.

Figure 6 shows biographies of group members, with pictures and text available as local content.

Figure 7 shows various pictures of the group, e.g., in the form of unreleased photos, and the like, here available as local content.

Figure 8 shows the headline news information (referred to in Figure 5) in a WIP page.

Figure 9 shows the credits for this CD, available as local content.

Figure 10 shows the video player with a default picture in the main window. Once a video is selected by pressing the appropriate title button or the play button, the video will be displayed in the main window.

Figure 11 shows various photos of the group members in a WIP page, here in the form of online content versus local content

Figure 12 shows other links pertaining to the group in a WIP page. Clicking on a link would result in that web page launched in the default browser.

5 Figure 13 shows video selections in a WIP page. This is different from the video player in Figures 4 and 10 in that this video is streamed from the online web site versus being played from the CD.

Figure 14 shows concert tour information displayed in a WIP page.

Figure 15 shows screen savers available for download in a WIP page.

10 In a related embodiment, the digital recording medium can include only one or more components of the application software, in order to permit that application to be loaded on a resident computer for later use. In an alternative, but related embodiment, the digital recording medium can include only one or more digital audio, video and/or graphics data packets, adapted to be integrated with application software provided previously or separately.

15 Using an example in which both audio/video/graphics and the software application are provided on the same digital (e.g., CD) medium, the user can load the medium into a multi-session CD-ROM drive and initiate the programs contained thereon. The user can access digital audio and/or video tracks and the selections contained therein, by an on-screen interface provided as part of the player software component. The icon-based choice to the user provides
20 access to one or more areas, and by clicking on the icon, the interface instructs the resident computer (or server site) to play the indicated selection. The audio/video selection resides within the region as a plurality of data/application files capable of being played on a CD-ROM player in combination with a personal computer.

The software application of this invention can be used in any suitable mode, e.g., with real-time multimedia applications, including both two-way interactive multimedia and one-way streaming multimedia. In one-way streaming, the information flow is largely one-way from a server to a client, except for information sent by the client to control the streaming (e.g., VCR-like controls such as fast forward, reverse, retransmission requests, etc.). The end-to-end delay requirements are less stringent for one-way streaming than for two-way interactive multimedia, but are more strict than for non real-time data applications. For instance, the client can provide audio, video and/or graphics to others, including to the server or to other clients on the network or system.